



Newsletter of the Physical Research Laboratory

THE SPECTRUM

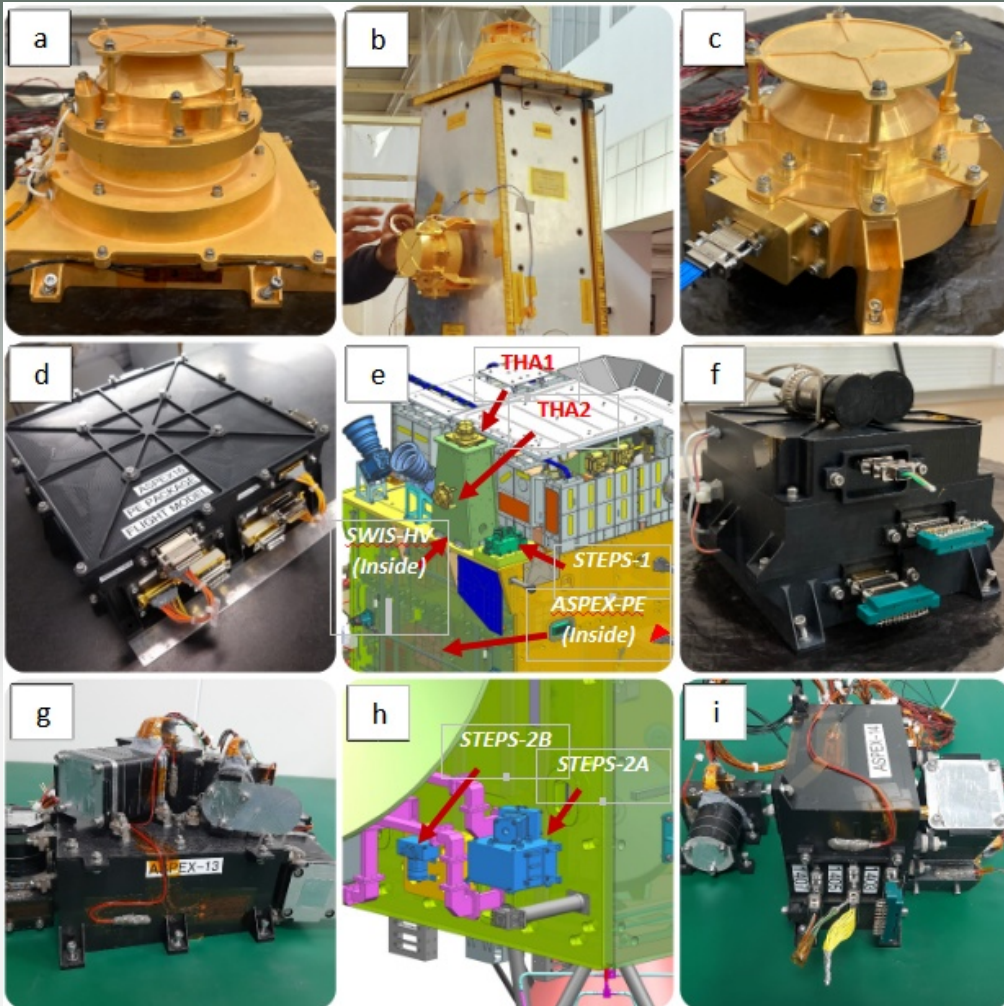


Image of the Month

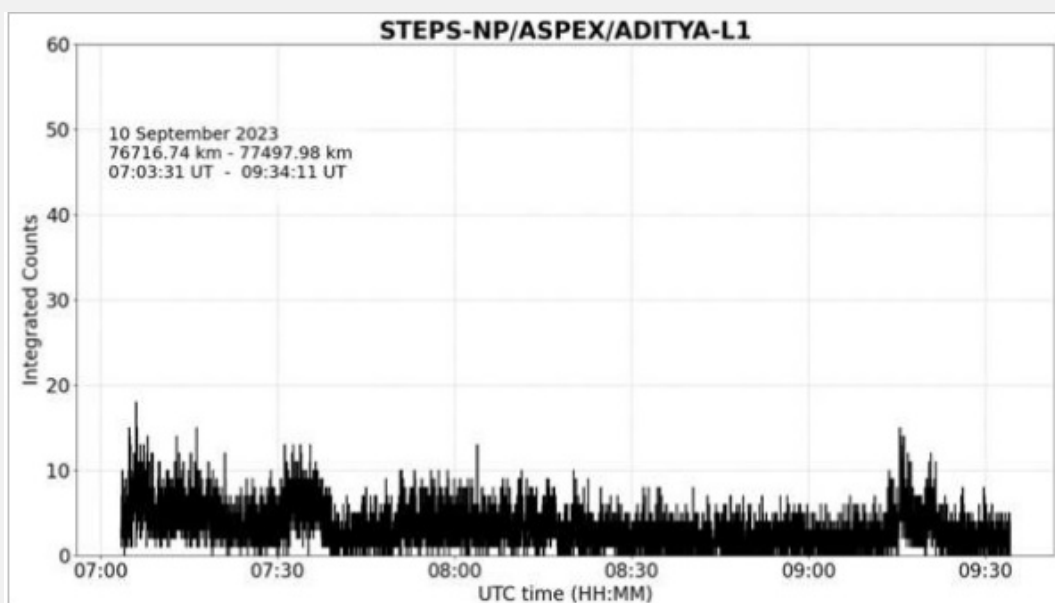
Units of ASPEX payload developed at PRL for Aditya L1 spacecraft (a) THA-1 (b) SWIS Tower with THA-1 and THA-2 mounted (c) THA-2 (d) ASPEX PE (e) Spacecraft Top Deck with SWIS Tower and STEPS-1 mounted (f) SWIS HV (g) STEPS-1 (h) Spacecraft rear Panel with STEPS-2A and 2B mounted (i) STEPS-2A and 2B

September 2023 Issue

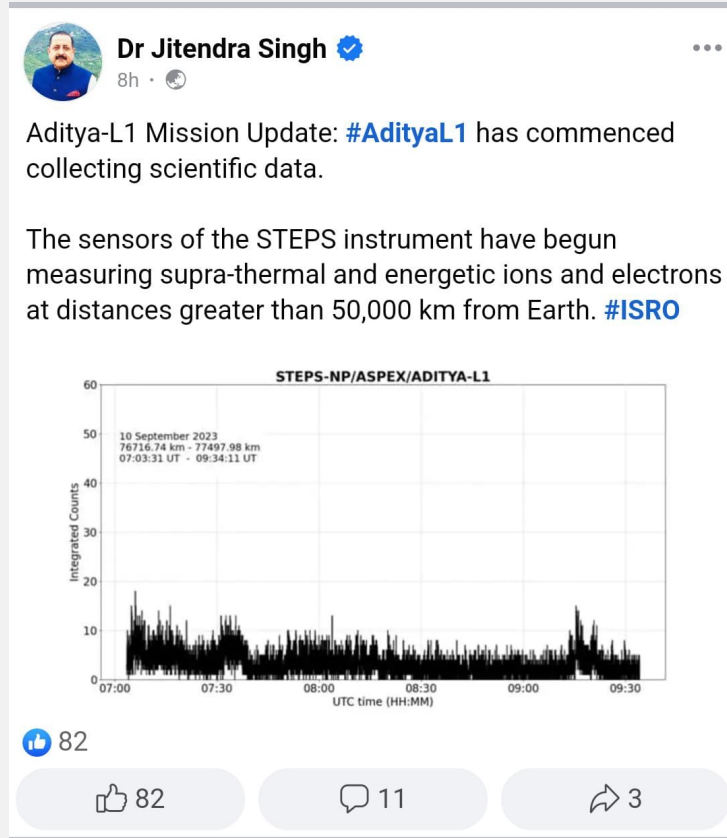
ASPEX payload from PRL onboard Aditya L1 spacecraft

Aditya-L1 is the first space-based dedicated solar observatory of India to study the Sun, our nearest star. The spacecraft shall be placed in a halo orbit around the Lagrangian point 1 (L1) of the Sun-Earth system, which is about 1.5 million km from the Earth. A satellite placed in the halo orbit around the L1 point has the advantage of continuously viewing the Sun without any occultation/eclipses. There are seven experiments on-board Aditya-L1 spacecraft and one of the experiments - Aditya Solar wind Particle EXperiment (ASPEX) - has been scientifically conceived at PRL. The design and fabrication of ASPEX at PRL took shape with support from SAC and URSC. ASPEX has two subsystems - SWIS (Solar Wind Ion Spectrometer) and STEPS (Supra Thermal and Energetic Particle Spectrometer). While SWIS is designed to measure solar wind (100 eV-20 keV) in and across the ecliptic plane with field of view of 360 degree, STEPS targets to measure suprathermal and energetic particles (20 keV/n - 5 MeV/n) from six different directions with varying field of views. The protons and alphas in the solar wind are of central importance to the scientific objectives of ASPEX. Direction-resolved measurements of protons and alphas in the solar wind at both low and high energies is a unique feature of ASPEX that can help in addressing the origin, energization and anisotropy of solar wind and its impact on space weather around the Earth.

ASPEX on-board Aditya-L1 was launched on 2nd September 2023. The spacecraft went through four earth-bound, increasingly elliptical orbits before it was injected into the trans-L1 trajectory on 19 September, 2023. The STEPS subsystem of the ASPEX payload onboard the satellite had the distinction of the only instrument that was switched on during the Earth-bound phase itself. STEPS was activated on September 10, 2023, at a distance above than 50,000 km from the Earth. This distance is equivalent to more than 8 times the Earth's radius, placing it well inside the Earth's magnetosphere. After completing the necessary health checks, data collection continued every time the spacecraft moved beyond 50,000 km from the Earth while orbiting around it. The measurements during the earth-bound orbits are expected to unravel important dynamics of earth's magnetosphere and interplanetary medium. By the time, this article is published, ASPEX on-board Aditya-L1 is cruising through the interplanetary medium (well beyond the Earth's Magnetosphere) on a four-month long journey towards the halo orbit around the L1 point making important measurements along the way.



Variation of integrated counts measured by NP unit of STEPS on 10/09/2023 (Courtesy: ISRO)



Tweet of MoS, Department of Space, Govt. of India, after the commissioning of the STEPS, ASPEX



ASPEX team members at Sriharikota with the Director, PRL before Aditya-L1 launch

Table of Contents

Experimental verification of countable infinity hidden in singular optics.....	5
Phase-dependent charge and heat current in thermally biased short Josephson junctions formed at helical edge states	6
Precise probing and discrimination of third-generation scalar leptiquarks.....	7
Source region of 3-min waves observed in coronal fan loops rooted in sunspot umbra.....	8
Implications of IceCube Data for determination of neutrino mixing angles in the presence of non-standard interactions.....	9
Influence of pressure and pulse energy on the expansion dynamics of nanoparticle-enhanced laser produced plasma.....	10
Events @ PRL.....	11
Recruitment: Secure and Real-Time Attendance with QR Codes.....	23
PRL Ka Amrut Vyakhyaan.....	24
PRL Amrut Rajbhasha Vyakhyaan.....	25
PRL Monthly Publications Digest.....	27
Awards & Honours And External Grants.....	29
New Members and Visitors.....	30
Superannuation.....	31
Inter Center Transfer.....	32
Obituary.....	33
Cyber Security Awareness.....	34

Experimental verification of countable infinity hidden in singular optics

(Subith Kumar, **Anirban Ghosh**, Chahat Kaushik, Arash Shiri, Greg Gbur, Sudhir Sharma, GK Samanta)

The Author



Anirban Ghosh

The mathematics of infinity seems to be paradoxical and counterintuitive, but they have many real-world realizations and applications. In 1924, mathematician David Hilbert illustrated the strange nature of the actual infinity which tells us to imagine a hotel now known as the "Hilbert Hotel" which has an infinite number of rooms in it. Furthermore, he says that imagine every room is occupied by a guest. Now suppose one night, a new guest appears in the hotel and wants to check-in. It seems that there will be no room for the new guests in the Hilbert Hotel, however, David Hilbert suggested that the manager vacant a new room by asking the existing customers in the hotel to come out of their room and move to the next highest room (say the person in room #1 moved to room #2, the person in room #2 moved to room #3) and thereby creating a new vacancy at room #1 in the hotel.

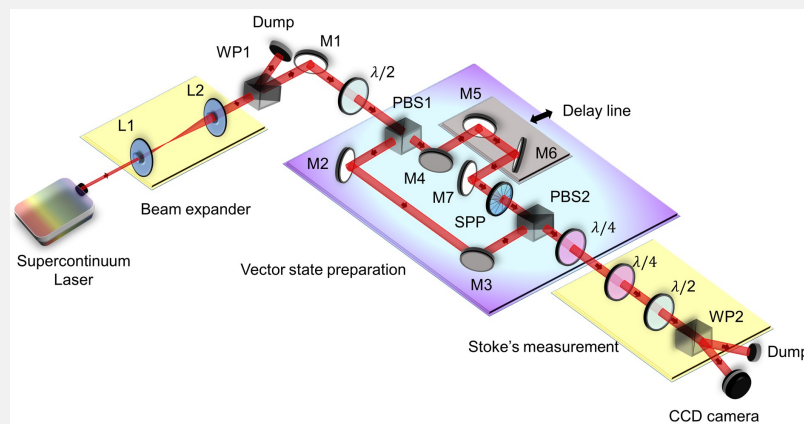
One would intuitively think that there would be no place for such a strange nature of countable infinity in the real world. However, in 2004 Prof. M.V. Berry and later in 2016 Prof. Gerg Gbur, pioneers in the field of Physical-Optics and Singular-Optics, theoretically showed us that the fractional optical vortex near its half-integer can manifest the Hilbert hotel.

Here, we demonstrate the first experimental demonstration of the optical Hilbert Hotel in both the phase and polarisation singular optical beams. Using a supercontinuum laser source and a single spiral phase plate, we showed that the fractional optical Vortex and Vector beams mimic the exact Hilbert Hotel behavior.

The work has been highlighted on the cover page of APL Photonics:
<https://pubs.aip.org/aip/app/issue/8/6>

A less technical account of the work: <https://doi.org/10.1063/10.0020095>

Source/Reference of the Work: <https://doi.org/10.1063/5.0150952>



Experimental Setup for the realisation of optical Hilbert hotel in phase and polarisation singular optical beam.

Phase-dependent charge and heat current in thermally biased short Josephson junctions formed at helical edge states

(Paramita Dutta)

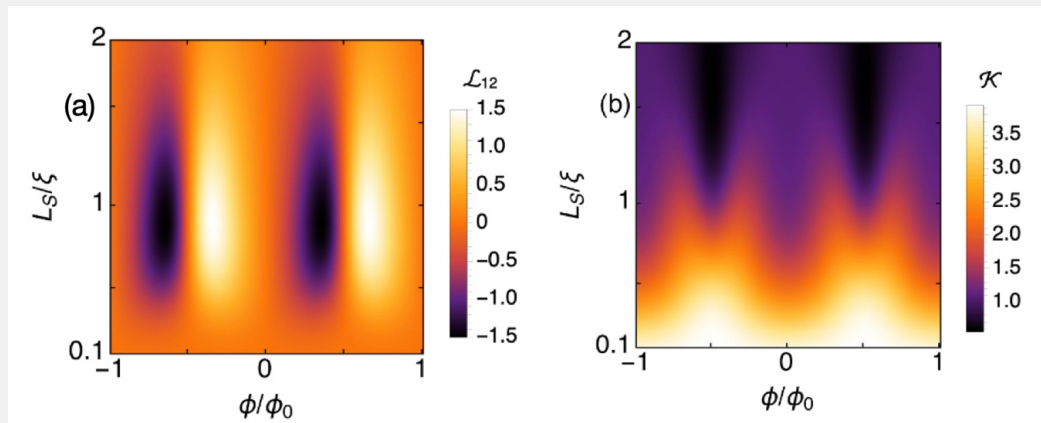
It has been shown in the literature that thermoelectric current can be generated by tuning the phase difference in Josephson junctions. We show the generation of phase-tunable charge and heat current in short topological Josephson junctions. We model the topological Josephson junction by placing two superconductors at the helical edges of two-dimensional topological insulators. For all finite phases, an asymmetry around the zero-energy appears in the transmission spectra except for integer values of half-flux quantum. The phase-induced asymmetry plays a key role in inducing charge and heat current through the thermally-biased junction. Interestingly, the charge current shows an odd symmetry in phase. It indicates that the phase-tunable asymmetry around the zero energy is not sufficient to induce a dissipative thermoelectric current in the junction. This is in contrast to the behavior of long Josephson junction, as shown in the literature. The phase-tunable heat currents are obtained with amplitudes set by the phase difference, base temperature, and system size.

Source/Reference of the Work: <https://doi.org/10.1088/1367-2630/acec92>

The Author



**Paramita
Dutta**



Non-dissipative charge current and heat current per unit temperature gradient as a function of junction size (L_S/ξ) and phase difference (ϕ/ϕ_0) where ξ is the superconducting coherence length.

Precise probing and discrimination of third-generation scalar leptoquarks

(Anupam Ghosh, Partha Konar, **Debashis Saha**, Satyajit Seth)

The Author

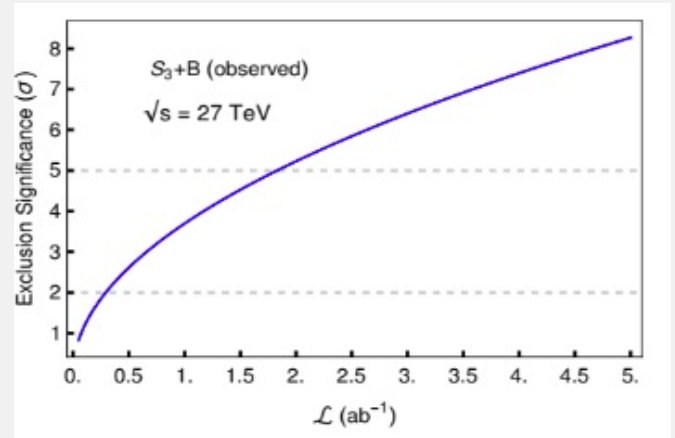
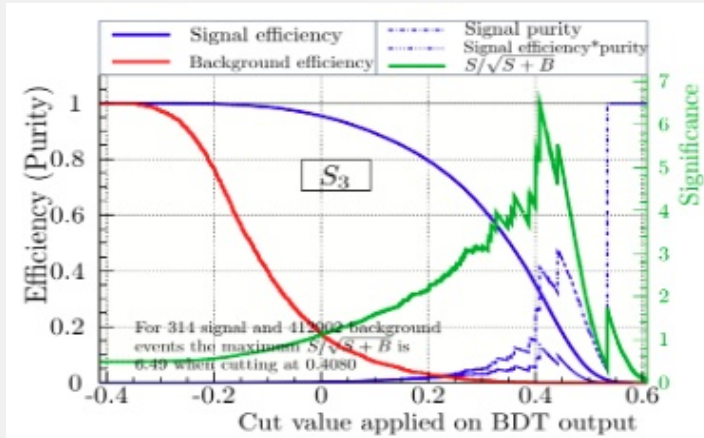


Debashis Saha

The standard model of particle physics is a theoretical framework which describes various particles and their interactions. Although the model is highly successful in explaining various phenomena, it still cannot answer many important questions. To answer these questions, many beyond the standard model theories are proposed. Leptoquark is a hypothetical particle which is predicted by some of these models and it couples quark and lepton together. It can be categorized into scalar and vector types, each of which can be further classified in six different types based on its interaction property with quarks and leptons. These particles are being actively searched at the LHC and have not been found in the mass range accessible to the collider so far. In the future, however, if it is observed at some higher mass, one of the main tasks will be to identify the type of it.

In this work, we propose precise probing of this particle using higher order calculations and machine learning techniques by considering pair production of it. Particularly, we consider third-generation leptoquarks which have decay mode to top quark. We then further propose to probe the class of the particle by measuring polarization of the top quark, as the different classes of leptoquarks decay to top quarks of different polarizations. However we have found even if the future runs of the LHC can discover a scalar leptoquark, it will not be able to tell which class it belongs to. For this a 27 TeV collider will be required, which will be capable of distinguishing different classes with 2 ab^{-1} luminosity if there exists a leptoquark of mass 1300 GeV (see the exclusion significance vs. Luminosity plot). However if its mass is even higher, then either energy of the collider or luminosity needs to be increased.

Source/Reference of the Work: <https://doi.org/10.1103/PhysRevD.108.035030>

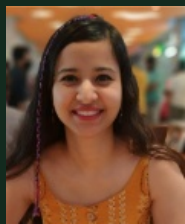


The left plot depicts signal and background efficiencies, as well as statistical significance as a function of the cut applied to BDT output for a scalar leptoquark model S_3 at 14 TeV collider. The right plot shows exclusion significance of another scalar leptoquark model R_2 at 27 TeV collider when the model S_3 is observed. The mass of the leptoquark is taken to be 1300 GeV.

Source region of 3-min waves observed in coronal fan loops rooted in sunspot umbra

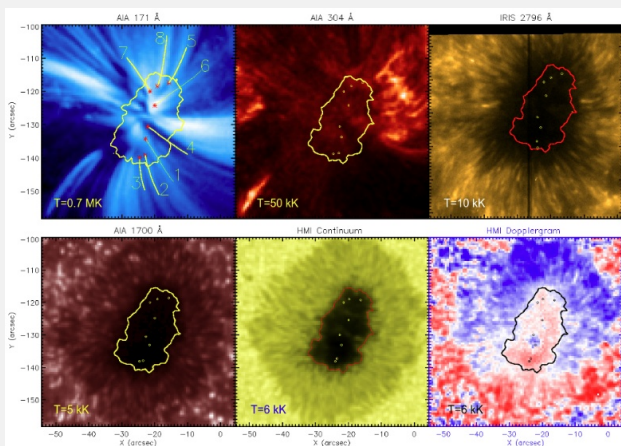
(Ananya Rawat and Girjesh Gupta)

The Author



Ananya Rawat

Coronal fan loops originating from sunspot umbrae display a 3-min period propagating slow magnetoacoustic waves in the corona. However, their origin in the lower atmosphere is still unclear. We conducted a comprehensive study of the sunspot using simultaneous images from AIA 193 Å, AIA 171 Å, AIA 304 Å, IRIS 2796 Å, AIA 1700 Å, and HMI continuum and Dopplergram. These images provide insights into different layers of the solar atmosphere, revealing coronal temperatures of 1.6 MK and 0.7 MK, transition region temperature of 50,000 K, chromospheric temperature of 10,000 K, temperature minimum region of 5000 K, and photospheric temperature of 6000 K, respectively. In the first figure, we present the sunspot observed from these passbands as labeled. It is evident from the images that the appearance of the sunspot varies significantly across different atmospheric layers, which emphasizes the complexities involved in their dynamics. We identified several fan loops rooted in sunspot umbra and traced their foot-points by identifying their locations at various atmospheric heights, from the corona down to the photosphere (see the first figure). This tracing also provided us the first indirect observational evidence of area expansion of the loop from photosphere to corona. During our investigation, we found presence of 3-min oscillations at the foot-points of all the loops and at all atmospheric levels (see Figure 2). To further trace the origin of these waves, we leveraged their amplitude modulation characteristics as they propagated through the solar atmosphere. Our findings revealed multiple amplitude modulation periods in the range of 9-14, 20-24, and 30-40 min for these 3-min waves at all heights. We also explored any connection between 3-min and 5-min oscillations observed at the photospheric foot-points of these loops and found them to be weakly coupled. Based

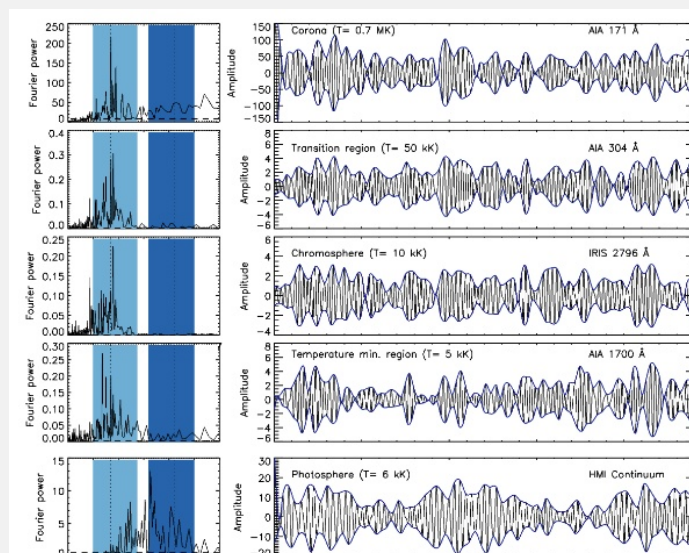


(Top) Images of the sunspot observed from different passbands sensitive to different temperatures as labeled. The fan loop system is clearly visible in the AIA 171 Å image. Identified loop foot-points in the corona and lower atmosphere are marked with asterisks and small circles respectively. Additionally, for visualization purposes, we have drawn the traced coronal loops in the AIA 171 Å image. Contours on the images represent the umbra-penumbra boundary.

(Right) Left panels: FFT power spectrum of original light curves obtained at each atmospheric height of loop 6 as labeled. Shaded regions in light and dark blue color denote the 3-min and 5-min period band respectively. Horizontal and vertical dashed lines represent 95% significance level, and the dominant peak in the 3- and 5-min period bands respectively.

on our findings, we interpreted that the 3-min slow magnetoacoustic waves propagating in coronal fan loops are driven by the 3-min oscillations observed at the photospheric foot-points of these fan loops in the umbral region. These results offer clear evidence of magnetic coupling within the solar atmosphere, demonstrated through wave propagation from the photosphere to the corona via the chromosphere and transition region. Such findings can provide valuable insights for modeling of wave propagation in the solar atmosphere.

Source/Reference of the Work: <https://doi.org/10.1093/mnras/stad2426>



Implications of IceCube Data for determination of neutrino mixing angles in the presence of non-standard interactions

(Monojit Ghosh, Srubabati Goswami, **Supriya Pan**, Bartol Pavlović)

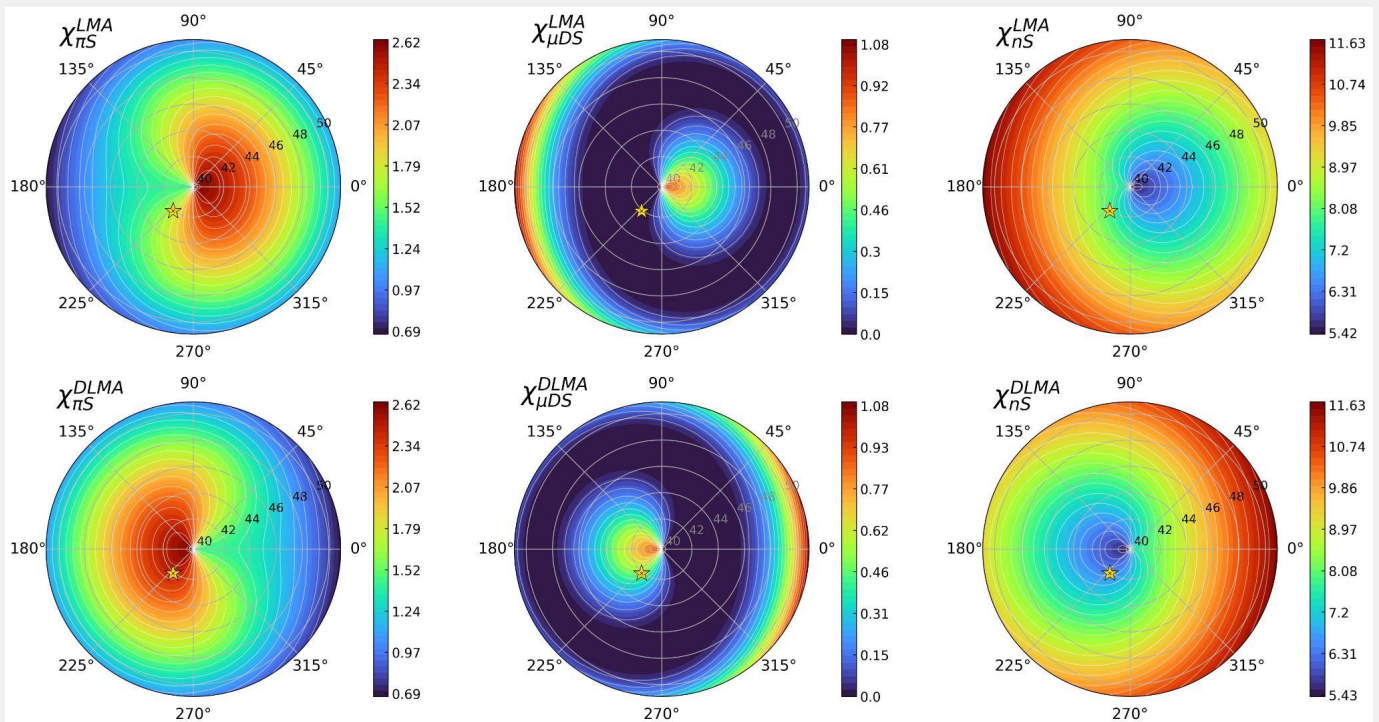
Neutrinos are the second most abundant particles of the Universe after photons. Three types of neutrinos have been observed in terrestrial experiments: electron (ν_e), muon (ν_μ) and tau (ν_τ) type neutrinos. One of the remarkable properties of these fundamental particles is that they can change their identity while travelling. This phenomenon of one type of neutrino getting converted to another type, known as neutrino oscillation, requires neutrinos to be massive and the different types of neutrinos to mix with each other. The parameters involved are the two mass-squared differences, three mixing angles and one complex phase. Most of these parameters are already well determined by the oscillation experiments. If there are interactions of neutrinos beyond the standard interactions, then some new solutions appear for the mixing angles. One such solution is the Dark-Large Mixing Angle (DLMA) solution, which is complementary to the standard Large Mixing Angle (LMA) solution of the solar mixing angle (θ_{12}). The LMA solution is close to 33° , while the DLMA corresponds to $90^\circ-33^\circ$. We explored the possibility of distinguishing between these two solutions using the data of high energy neutrinos as observed by the IceCube Neutrino experiment at the South Pole. We considered various astrophysical sources giving different compositions of the three types of neutrinos and investigated which solution better fits the data. We also studied how the determination of the other yet unknown oscillation parameters is affected in the presence of this new solution for the solar mixing angle.

Source/Reference of the Work: <https://doi.org/10.3390/universe9090380>

The Author



Supriya Pan



χ^2 analysis of LMA (top) and DLMA (bottom) solutions in the context of IceCube data for different astrophysical sources: π source(left), μ source(middle), n source(right). The golden Star denotes the best-fit values. The radius of the circle gives the value of mixing angle θ_{23} and the angle of the circle refers to the complex phase. The value of χ^2 is given by color bars on the right of the each panels.

Influence of pressure and pulse energy on the expansion dynamics of nanoparticle-enhanced laser produced plasma

(Swetapuspa Soumyashree, Prashant Kumar)

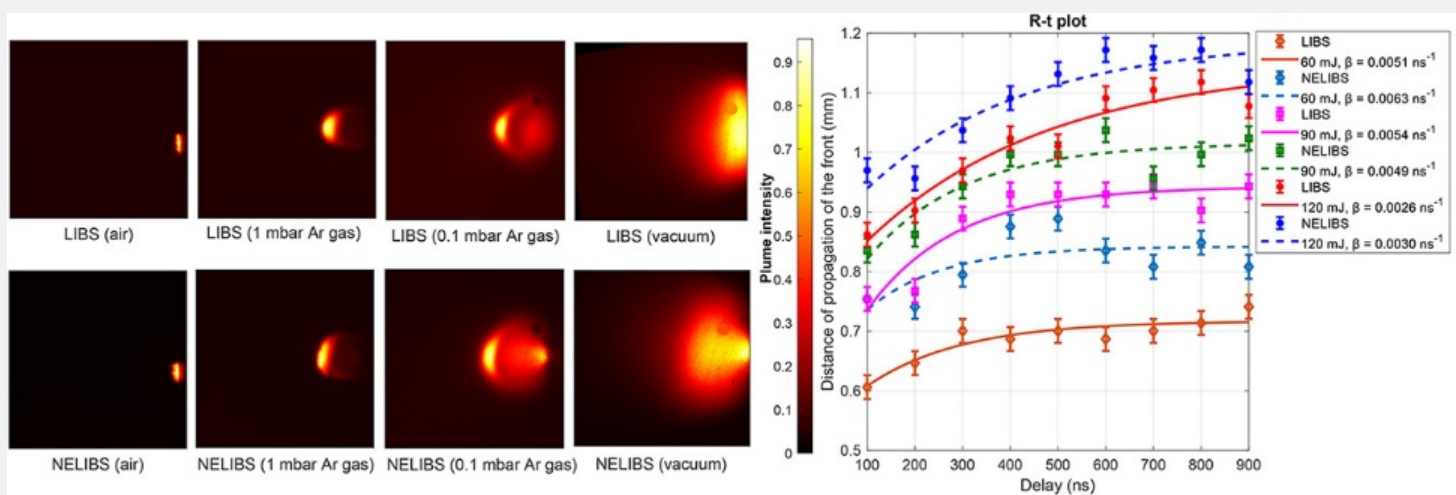
The Author



Swetapuspa Soumyashree

This is a novel work first carried out by our group at PRL to study the plume dynamics of the nanoparticle enhanced laser produced plasma (NELPP) among the scientific communities. In this work, we have studied the influence of pressure and pulse energy on the expansion dynamics of nanoparticle-enhanced laser produced plasma (NELPP) for two different metals, copper and aluminium. Although spectroscopic investigation of signal enhancement of emission line intensities in presence of nanoparticles (NPs), nanoparticle enhanced LIBS (NELIBS), has been performed extensively, expansion dynamics for NELIBS is not yet studied. We have carried out a detailed investigation of the plume propagation of NELPP for different pulse energies and ambient pressures. Temporal evolution of the distance of propagation of the plume front at different laser fluences and pressures shows a good agreement with the existing theoretical models. The R-t plots obtained for NELPP are governed by the drag model in the atmosphere, the adiabatic expansion model at lower pressure, and the blast wave model in 1 mbar Argon gas, as also seen in the case of LPP. By comparing different plume propagation parameters, such as diameter, aspect ratio, and expansion velocity, we have shown that the NELPP plume shows similar behavior as of LPP and its evolution can be explained with the existing models. Hence NPs, though influence the ablation process, do not alter the overall plume dynamics during the course of plasma evolution as observed for the two metals.

Source/Reference of the Work: <https://doi.org/10.1016/j.sab.2023.106761>



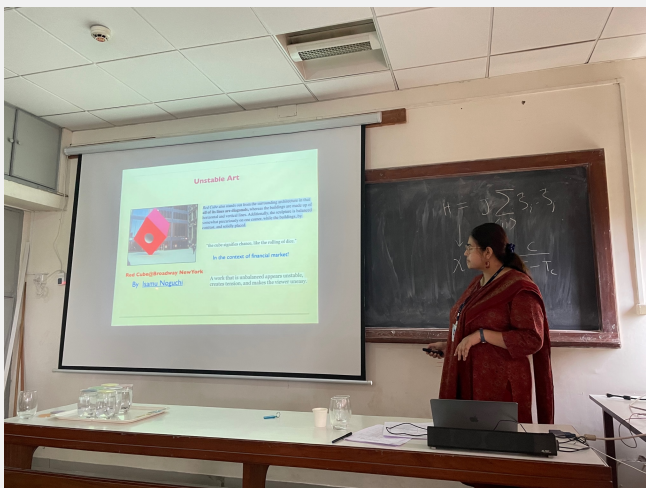
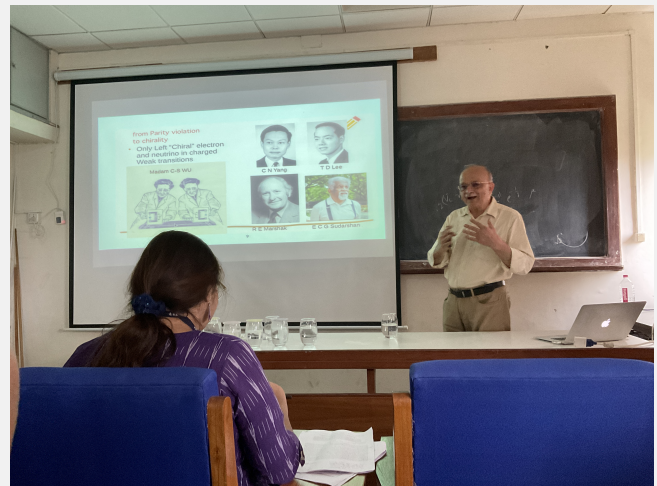
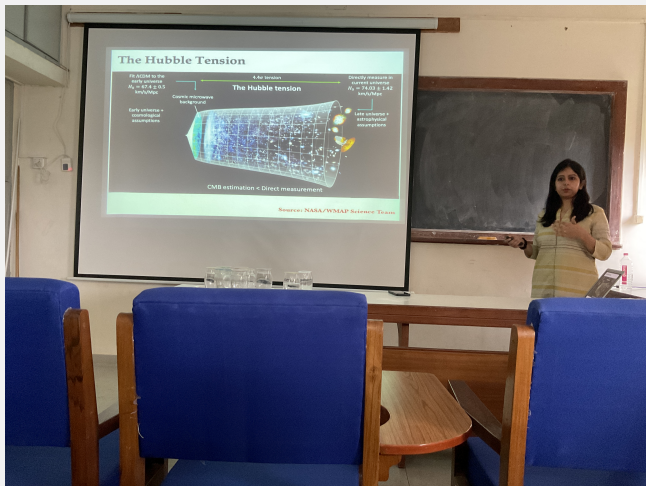
Plume images obtained for Al in different pressure regimes at a gate delay of 200 nsec for both LPP and NELPP. The color bar indicates the intensity of each plume image for both LPP and NELPP. The yellow color represents the maximum intensity whereas the black color of the color bar represents the minimum in each plume image (on the left), and Distance of propagation of plume front, R as a function of time at different energies in normal atmospheric pressure (on the right).

Annual Theory Discussion Days



Annual Theory Discussion Days, a three day discussion series was held at PRL Navrangpura campus from 9-11 August 2023 to discuss the recent developments in high energy, particle and condensed matter physics. The event was held in person. This is an invitation-based annual event organized by Theoretical Physics Division of PRL where people mostly from PRL and nearby institutes/Universities attend. There were approximately 35 participants including faculty members, postdoctoral fellows, Ph.D. students from Theory Division and faculty members from Indian Institute of Technology Gandhinagar (IIT Gn), Ahmedabad University (AU), Pandit Deendayal Energy University (PDEU), St. Xavier's College, Ahmedabad. A few former faculty members of the division also attended the meeting (one of them presently from IIT Kanpur and another from NISER Bhubaneswar). There were 18 invited talks by speakers from different fields, including 7 present faculty members of the division, 4 former faculty members from the division, 5 present faculty members from IIT Gn, 1 faculty member from AU and 1 faculty member St. Xavier's college. Out of the 18 talks, 4 talks were on condensed matter physics and statistical physics including topics like superconductivity, heat engine, non-equilibrium dynamics, and 14 talks were on various topics like neutrino physics, favour-physics, dark matter, quantum chromodynamics, Beyond standard model physics, heavy ion collisions, hot QCD matter, gravitational waves, grand unification theory, spin & hydrodynamics, Bose star in a rotating cloud, and machine learning. There were vibrant discussions during all days of ATDD. Additionally, the special talk on IceCube named as PRL ka Amrut Vyakhyaan-83, was organized on the first day of the ATDD to continue the discussions on similar topics.





Theoretical Physics Division acknowledges the financial support from PRL and also thank all concerned PRL family members for their invaluable support in making the event successful. We also thank all the participants of ATDD for making this year's meeting a memorable and successful event.

Tug Of War

Tug of War is one of the most ancient games known to man and there is evidence that it was played across the ancient world. Also known as rope pulling, tugging war and war of tug, it remains today a popular sport that pits the strengths of two teams against each other and is practiced in some form in almost every country in the world.

As a part of Azadi Ka Amrit Mahotsav, an Inter Division/Area Tug of War Competition was organized at PRL Library Lawn at PRL, Ahmedabad on 11th August, 2023 (Friday). Division /Area wise team of 8 members were formed. Four teams namely Team Ahilya, Team Kalpana, Team Teresa and Team Lakshmi were also formed comprising Female staff members. The teams were informed about the rules of the game. Dr. Anil Bhardwaj, Director, PRL, Dr. D Pallam Raju, Dean, PRL and Dr. R.D. Deshpande, Registrar, PRL met each player and encouraged them to give their best in the game.

The event was conducted on knockout basis. The game was refereed by Dr. T A Rajesh and Dr. S Venkataramani. Each team put their best efforts to win the game. Audience cheered each team and boosted their energy. On the completion of Final round, just like the previous year, Team Services won the first prize, followed second prize by Team GSDN. Team Administration secured the third prize.

The female teams participated with equal vigour, commendable strength and enthusiasm. At the end of Four matches, Team Ahilya bagged the first whereas Team Teresa became a runner-up. Team Kalpana and Team



Spontaneously, two more teams of veteran PRL members were formed as Team Dean and Team Registrar. The veteran team's competition was refereed by the Director, PRL. At the end of the game, the team Dean won the match and team Registrar became the runner-up. Everyone had enjoyed the event thoroughly.



Vikram Sarabhai Jayanti celebrations at PRL

Every year PRL celebrate Vikram Sarabhai Jayanti on 12th August in all the campuses of PRL. This year PRL celebrated the 104th Birth Anniversary of Prof. Vikram Sarabhai, who is the father of Indian Space Programme and founder of Physical Research Laboratory (PRL), a function was organised in his remembrance at PRL Main and PRL Thaltej Campus.

PRL MAIN CAMPUS

The function started at PRL Main campus at 0930 hrs. on Saturday, 12th August 2023 by garlanding the statue of Prof. Vikram Sarabhai by Sarabhai family members along with other dignitaries invited and members of PRL. Thereafter, a tree plantation was organised at PRL Main campus. The Dignitaries, Retirees, New Joinees including Students, participated in tree plantation with great zeal and enthusiasm. More than 75 plants of various species, like Night-blooming Jasmine, Madhukamini, Jasud, Paras, Gardenia, Tabebuia, Safflower, Ixora, were planted.



PRL THALTEJ CAMPUS

Vikram Sarabhai Jayanti was also celebrated at PRL Thaltej Campus at 11:00 hrs by garlanding the bust of Prof. Vikram Sarabhai by Retirees, Senior Faculties of PRL. Tree Plantation was organised at PRL Thaltej Campus. More than 50 plants of various species, like Red Karan, White Karan, Chandi, Tecoma were planted by PRL Retirees, Senior Faculties, New Joinees & Students of Thaltej Campus. The function concluded, as per the PRL's tradition of distributing Churma Ladoos (made at PRL Canteen) to mark the Birth Anniversary of Prof. Vikram Sarabhai in both the campuses.



77th Independence Day celebration at PRL, Ahmedabad

The 77th Independence Day was celebrated with the great enthusiasm at PRL Main campus, Library lawn on 15th August 2023 (Tuesday) under the ‘Azadi Ka Amrit Mahotsav’.

Dr. Anil Bhardwaj, Director, PRL hoisted the National flag, which was followed by the National Anthem. As per protocol, CISF, PRL personnel carried out a Parade. Dr. Anil Bhardwaj had delivered an enriching and patriotic speech to the audience, showcasing PRL’s Scientific & other activities undertaken during the year. This was followed by merit and service awards to CISF Cadets.

Thereafter, the prize distribution for various competitions held under the AKAM was carried out i.e. Tug-of-War, Treasure Hunt, Yoga, Badminton and Table Tennis competition. Tri-color balloons were also released by the children to mark the day of Independence followed by the tree plantation by PRL members and their family members.

Followed by this, the cultural programme was organized at K R Ramanathan auditorium in which instrumental song (piano), solo singing, dance and Mime act, were performed by the PRL members and their family members. Their performances spread the feeling of proud patriotism in everyone’s heart and everyone enjoyed a lot.

At the end, a screening of the film "The Journey of ISRO" (directed by Shri KS Sridhar and produced by Films Division) was telecasted in the K.R. Ramanathan auditorium. The film briefly depicted the entire voyage of ISRO from the beginning till today.’



77th Independence Day Celebration at Udaipur Solar Observatory

On the occasion of 77th Independence Day, various programs were organized with great zeal and enthusiasm at Udaipur Solar Observatory/Physical Research Laboratory, Udaipur. On this Occasion, Dr. Shibu K. Mathew, Head, Udaipur Solar Observatory / Physical Research Laboratory hoisted the National Flag followed by National anthem sung by all the members and visitors attending the event, which echoed through the surroundings and filled the hearts with a deep sense of pride and unity.



On this occasion, Dr. Shibu K. Mathew, Head, Udaipur Solar Observatory / Physical Research Laboratory, Udaipur, welcomed all the present members and visitors with his address and wished everyone a happy Independence Day.

After this, the winners of Treasure hunt, Yoga competition and badminton tournament organized under CAKAM and SWC at USO/PRL, Udaipur were honoured with awards for their excellent performance.

On this occasion, as an initiative to honour the security personnel for performing exceptional and commendable work Mr. Suraj Kumar Rathore was felicitated with the award for best security personal for the year 2022-2023.



हिंदी तकनीकी संगोष्ठी – 2023

भौतिक अनुसंधान प्रयोगशाला में "संधारणीय विकास के लिए वैज्ञानिक और तकनीकी नवीनता Scientific and Technical Innovations for Sustainable Development" विषय पर 16 अगस्त 2023 को एक दिवसीय हिंदी तकनीकी संगोष्ठी का आयोजन किया गया। इस संगोष्ठी के मुख्य विषय के अंतर्गत वैज्ञानिकों की सुविधा के लिए उप-विषय भी रखे गए थे जो निम्नानुसार हैं:

- प्राकृतिक संसाधनों का संरक्षण – दुर्लभता से संधारणीयता तक
- जलवायु परिवर्तन – पृथ्वी के तापमान में परिवर्तन से लेकर चरम मौसमी घटनाओं तक
- क्वांटम प्रौद्योगिकी – वैज्ञानिक नवीनता से संधारणीय संचार तक
- भावी दिशानिर्देश – संधारणीय प्रबंधन से समुत्थानशील विकास तक
- मुख्य विषय से संबंधित कोई अन्य विषय

इस तकनीकी संगोष्ठी में राष्ट्रीय डिजाइन संस्थान के निदेशक, प्रो. प्रवीण नाहर मुख्य अतिथि के रूप में पधारे थे। अन्य उपस्थित गणनान्त्र्यों में अंतरिक्ष उपयोग केंद्र के नियंत्रक, श्री विवेक जैन उपस्थित थे। कुल तीन सत्र थे। दो मौखिक प्रस्तुति सत्र एवं एक पोस्टर सत्र।

कुल मिलाकर 49 प्रस्तुतियां थीं। मौखिक प्रस्तुति 20 थे एवं पोस्टर 29 थे।

इस हिंदी तकनीकी संगोष्ठी में वैज्ञानिक एवं तकनीकी क्षेत्रों के सदस्यों ने अपने-अपने मौखिक लेख हिंदी में प्रस्तुत किए। इससे विज्ञान के क्षेत्र में भी राजभाषा का प्रसार सुदृढ़ हुआ, एवं साधारण लोगों को भी सरल, सहज भाषा में विज्ञान को समझने का मौका प्राप्त हुआ। इस तरह के लेखों से स्कूली बच्चों को अत्यंत लाभ होगा। प्रतिभागियों के सर्वोत्तम प्रयास द्वारा यह संगोष्ठी और रोचक एवं समृद्ध हुई।

विभिन्न कार्यालयों से आए हुए आमंत्रित गण एवं प्रतिभागियों ने समग्र आयोजन एवं व्यवस्था की प्रशंसा की।



National Sports Day - FIT India Fitness pledge

As per the Government of India, Department of Space directives, the National Sports Day 2023 was celebrated during 21st August to 29th August, 2023. As a part of this, a FIT India Fitness pledge was taken by the PRL members on Monday, 28th August, 2023 at respective work place at 1100 hours.

PRL Members were also encouraged to take the FIT India pledge on <https://pledge.mygov.in/fitindia/> and to download certificate.



Shot on OnePlus
By JP007



Certificate(s) given by FIT INDIA Mission were available for download for all the persons taking the pledge

CNIT Division Nukkad – “Chai Pe Byte” on Param Vikram-1000 HPC

The first, Computer Networking and Information Technology (CNIT) Division’s Nukkad – “Chai Pe Byte on Param Vikram-1000 HPC” was held on August 02, 2023 in offline mode during 14:30hrs to 16:00hrs both at Main Campus & Thaltej Campus of PRL. There were 39 participants from different divisions/sections attended the session. In the session, 80% discussion was in Hindi and 20% discussion was in the English.

The main objective of the initiative is to share the experiences & knowledge, understand users’ IT related problems, find their possible solution and strengthen the overall bonding between CNIT Division and PRL colleagues, which in turn will improve the overall functioning of PRL IT services/facilities. Mr. Jigar Raval welcomed all participants in the first session of CNIT Division Nukkad – ‘Chai Pe Byte on ParamVikram-1000 HPC’ and briefed



the purpose of this initiative and topic Param Vikram-1000. The main objective of the topic “Param Vikram-1000 HPC” is to share the experiences & knowledge, understand users’ problems (if any) of HPC and help to resolve them. Also, motivate & aware new users to utilize available High Performance Computing Facilities of PRL which in turn will improve the effective and efficient utilization of the Param Vikram-1000 HPC.

In the opening remarks, Prof. Bijaya Sahoo, Professor, AMOPH division briefed about requirement of high end computing in solving complex scientific problems. He encouraged users to explore how HPC can be useful in their existing applications. He explained overall concept of parallel programming in Message Passing Interface (MPI), OpenMP.

All the participants have shared their views and given valuable feedback on Param Vikram-1000 HPC. CNIT team has provided all possible technical support to few participants for successfully porting their application on Param Vikram-1000 HPC. They could successfully run their application and get the desired output for their research/academic work.

All the participants actively participated in the session and appreciated the new initiative of CNIT.

CNIT team sincerely thank Director, PRL, for his constant guidance and motivation to initiate such activities in different IT verticals. We thank Registrar, PRL, and Dean, PRL for their support. We thank Prof. Bijaya Sahoo, Prof. Varun Sheel and Prof. Namit Mahajan for their guidance and support in all the IT related activities and projects. From the bottom our hearts, we thank all the participants who enthusiastically participated, provided their valuable feedback and encouraged us to conduct similar events in future. We also thank all the PRL users for their cooperation and help.

The detailed report of the session is available on CNIT Division Website, accessible within PRL LAN. URL: <https://www.prl.res.in/prl-eng/cc/intranet/chaipebyte>

CNIT Division Nukkad – “Chai Pe Byte” on Exploring PRL Website

The second, Computer Networking and Information Technology (CNIT) Division’s Nukkad – “Chai Pe Byte on Exploring PRL Website” was held on August 31, 2023 in offline mode during 14:30hrs to 16:00hrs both at Main Campus & Thaltej Campus of PRL. There were total 40 (24 at Main Campus and 16 at Thaltej Campus) participants who attended the session. In the session, 80% discussion was in Hindi and 20% discussion was in the English.

The main objective of the initiative “Chai Pe Byte” is to share the experiences & knowledge, understand users’ IT related problems, find their possible solution and strengthen the overall bonding between CNIT Division and PRL colleagues, which in turn will improve the overall functioning of PRL IT services/facilities.

Mr. Jigar Raval at Main Campus and Mr. Tejas Sarvaiya at Thaltej Campus welcomed all participants in the second



session of CNIT Division Nukkad – ‘Chai Pe Byte on Exploring PRL Website’ and briefed the objective of topic “Exploring PRL Website”. The main objective of this Month’s event is to make the users, specifically the persons who manage several of the dynamic content of the PRL webpages, aware the various features in order for smooth entry of information. These pages of PRL website include: Publications, What’s New, PRL In News, Tenders, Recruitment, Colloquium/Seminar, and Division’s Web Content Management.

CNIT had formed two teams to conduct the parallel session at both PRL Main and Thaltej Campuses. Using the online facilities already developed, Mr. Girish Padia (Main Campus) and Mr. Prashant Jangid (Thaltej Campus) presented dynamic webpage management. This does not require knowledge of any web programming language or database. They explained all the major dynamic web captions, Content Delivery Network (CDN), including Government of India Guidelines for Website (GIGW). They also explained roles and responsibilities of the respective custodian on web content, moderation and approval process. The web content management is a shared responsibilities.

All the participants shared their views and gave valuable feedback on dynamic web content management software. All the participants appreciated the collective contribution of all the PRL colleagues to keep the PRL website updated with latest information. Especially, the participants appreciated the sincere efforts of (a) Mrs. Rumkee Dutta for maintaining website content in Hindi (b) Dr. Bhushit Vaishnav for timely publishing information on the PRL’s Social Media Account and (c) Web Admin team (Mr. Prashant, Mr. Dinesh, and Mr. Girish) for developing software for automation in PRL web content management, secure setup of web site from web attacks. CNIT team sincerely thank Director, PRL, for his constant guidance and motivation to initiate such activities in different IT verticals. We thank Registrar, PRL, and Dean, PRL for their support. We thank Prof. Bijaya Sahoo, Prof. Varun Sheel and Prof. Namit Mahajan for their guidance and support in all the IT related activities and projects. From the bottom our hearts, we thank all the participants who enthusiastically participated, provided their valuable feedback and encouraged us to conduct similar events in future. We also thank all the PRL users for their cooperation and help.

The detailed report of the session is available on CNIT Division Website, accessible within PRL LAN. URL: <https://www.prl.res.in/prl-eng/cc/intranet/chaipebyte>.

Recruitment: Secure and Real-Time Attendance with QR Codes

In our ongoing quest to streamline and modernize our recruitment processes, we are excited to announce a ground-breaking change that ensures security, authenticity, real-time accuracy and instant headcount in recording candidate attendance. We have embraced technology in such a way that not only simplifies the process but also enhances our commitment to fairness and transparency.

Introducing Unique QR Codes

Gone are the days of traditional attendance sheets and manual tracking. We have ushered in a new era by embedding unique QR codes and barcodes in each hall ticket issued to every candidate. These codes are designed with an intricate encryption that makes them tamper-proof and virtually impossible to duplicate.

The Seamless Process

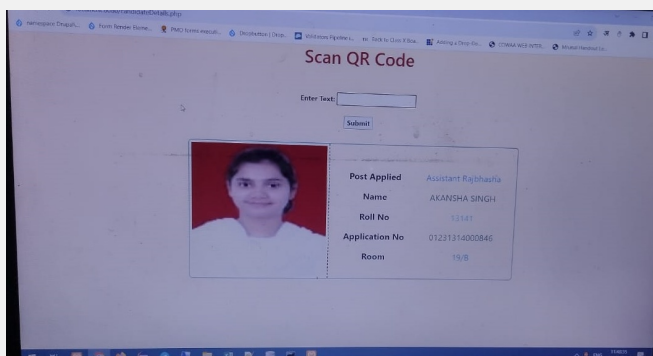
When candidates arrive at the examination center, our sophisticated software takes the center stage. Here's how it works:

- **Scanning:** Upon arrival, the candidate's hall ticket is scanned using our specialized software.
- **Decryption:** The software decrypts the QR code, revealing the unique candidate information it contains.
- **Verification:** The candidate's details, including their photo, name, roll number, registration number, and assigned room number, are instantly displayed on the screen.
- **Real-Time Marking:** Simultaneously, the candidate's attendance is marked as 'present' in our database.

Importance

This technological leap offers numerous benefits:

- **Enhanced Security:** The use of encryption and unique QR codes ensures that no one can generate a duplicate hall ticket or tamper with the attendance date.
- **Real-Time Accuracy:** With attendance marked in real-time, we eliminate the risk of human error and ensure that our records are always up-to-date
- **Transparency:** Candidates can see their details displayed on the screen, promoting trust and transparency in our recruitment process.
- **Efficiency:** The entire process is not only more secure but also faster, allowing for a smoother and more organized recruitment experience.



83rd PRL Ka Amrut Vyakhaan



PKAV-83

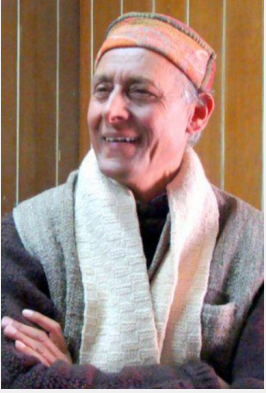
The 83rd PRL ka Amrut Vyakhaan titled "**Seeing the high energy universe with IceCube**" was delivered by **Prof. Subir Sarkar** from Department of Physics, University of Oxford, United Kingdom on August 9th, 2023 in an online mode.

Abstract of the Vyakhaan

In the past decade a new window has opened on to the Universe with the advent of high energy neutrino astronomy. The IceCube experiment at the South Pole discovered a diffuse flux of astrophysical neutrinos at TeV-PeV energies, and also identified the first candidate source for this flux: a flaring blazar 5.7 billion light-years away. This was a breakthrough in real-time multi-messenger astronomy and poses challenges to astrophysical models of such active galactic nuclei. Intriguingly no neutrinos have been detected from gamma-ray bursts, nor were any seen from the binary neutron star merger detected in gravitational waves. Resolving the high energy neutrino sky and furthering our understanding of such extreme environments will require IceCube-Gen2, which will have 8 times the instrumented in-ice volume, in addition to a surface array including radio detectors to extend the energy range by 3–4 orders of magnitude. Such a facility also has immense potential to probe new phenomena beyond the Standard Model of particle physics. Possibilities for Indian participation in this exciting endeavor were discussed.

Available online at: <https://www.youtube.com/live/pLBnoYI7egk?si=4vXq8gcZWAP1Z-7Y>

तीसरा पीआरएल अमृत राजभाषा व्याख्यान (पर्व)



"पीआरएल अमृत राजभाषा व्याख्यान (PARV)" का तृतीय व्याख्यान 30 अगस्त, 2023 को हुआ। एक प्रमुख भारतीय इतिहासकार और लेखक और पीपुल्स एसोसिएशन फॉर हिमालयन एरिया रिसर्च (पहाड़) के संस्थापक डॉ. शेखर पाठक ने "एक ही है हिमालय" शीर्षक पर व्याख्यान दिया।

डॉ. पाठक ने हिमालय को न केवल बहुमुखी प्रकृति जैसे पहाड़ों, झीलों और नदियों सहित भौगोलिक, भूवैज्ञानिक और जैविक विविधता के भंडार के रूप में बल्कि सामाजिक-सांस्कृतिक विविधता और एक विविध अर्थव्यवस्था शिकारी-संग्रहकर्ता परंपराएँ, पशुपालन, खेती और आधुनिक व्यापार को शामिल करने वाले टेपेस्ट्री के रूप में भी इसकी भूमिका पर जोर दिया। उन्होंने हिमालय को 'बर्फ के निवास' के रूप में उजागर किया, लेकिन हाल के दिनों में इस क्षेत्र के एक आपदा हॉटस्पॉट में खतरनाक परिवर्तन को भी रेखांकित किया।

व्याख्यान में विस्तार से बताया गया कि कैसे हिमालय प्राकृतिक और आध्यात्मिक दोनों शक्तियों के लिए एक अभिसरण बिंदु के रूप में कार्य करता है, जो तीर्थयात्रियों और पर्यटकों को आकर्षित करता है। क्षेत्र का पारिस्थितिक संतुलन दक्षिण एशिया के समाजों को महत्वपूर्ण रूप से प्रभावित करता है, हालांकि ये अमूल्य संसाधन जितनी तेजी से हम उन्हें बहाल कर सकते हैं उससे कहीं अधिक तेजी से गायब हो रहे हैं।

जहां हिमालय अपनी ऊंची चोटियों, चुनौतीपूर्ण दरों और बर्फीले विस्तार से साहसी लोगों को लुभाता है, वहीं इसके निवासियों के सामने सबसे बड़ी चुनौती अपने आत्म-सम्मान और इस भूमि पर निवास करने के अधिकार की रक्षा करना है। डॉ. पाठक ने हिमालय की नाजुकता की गहरी समझ की आवश्यकता पर बल दिया, एक ऐसी संवेदनशीलता जिसे हमें अभी तक पूरी तरह से अपनाना बाकी है।

हिमालय को उनकी वर्तमान स्थिति में संरक्षित करना महत्वपूर्ण है, क्योंकि वे हमारी जीवन शैली और संस्कृति की आधारशिला बने हुए हैं। इस व्याख्यान का उद्देश्य भारतीय उपमहाद्वीप के लिए हिमालय पर्वत के प्राकृतिक, पारिस्थितिक, सामाजिक, आर्थिक, सांस्कृतिक, आध्यात्मिक और भू-राजनीतिक महत्व पर प्रकाश डालना, उनके भूगोल, सांस्कृतिक समृद्धि, उपलब्ध संसाधनों और उनकी रक्षा के लिए चल रहे संघर्षों पर प्रकाश डालना था।

इस ज्ञानवर्धक व्याख्यान के बाद, एक आकर्षक प्रश्न और उत्तर सत्र ने प्रतिभागियों को विषय वस्तु में गहराई से उतरने और व्यक्तिगत अंतर्दृष्टि प्राप्त करने की अनुमति दी।

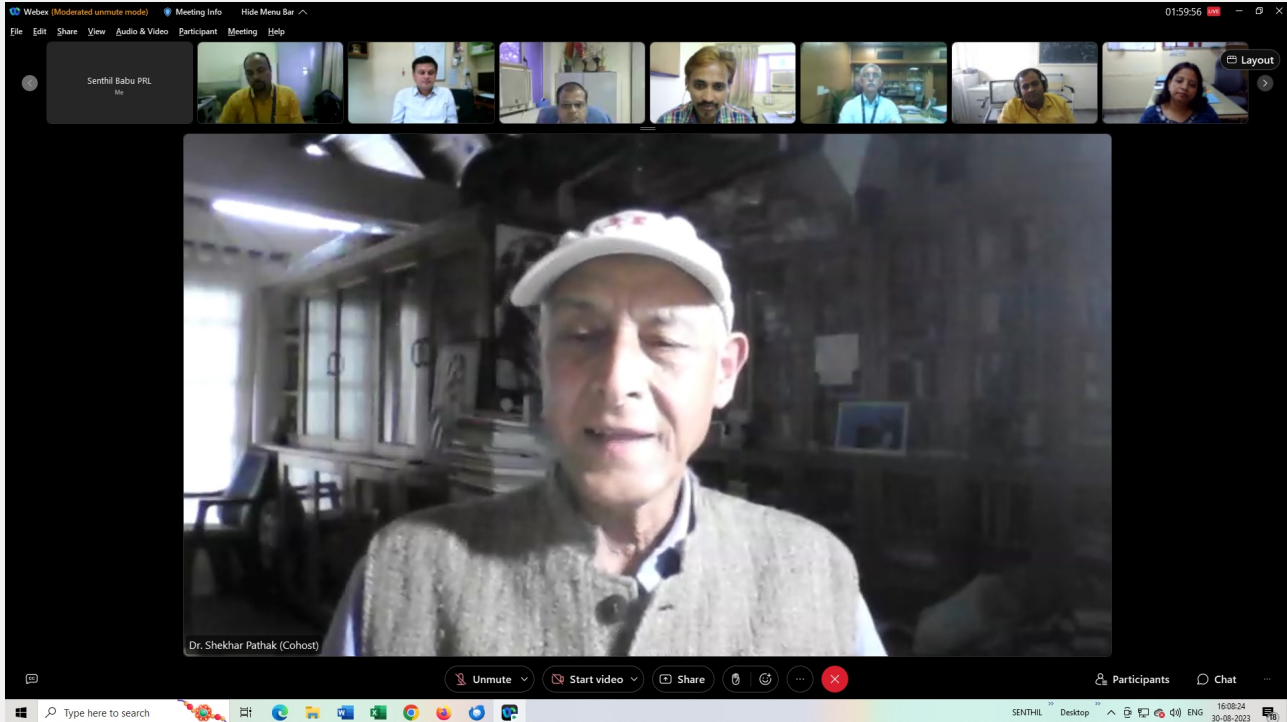
The 3rd lecture of "PRL Amrit Rajbhasha Vyakhyan (PARV)" took place on August 30, 2023. **Dr. Shekar Pathak**, a prominent Indian historian, and writer, and the founder of the People's Association for Himalayan Area Research (PAHAR), delivered the lecture titled "एक ही है हिमालय (**There is only one Himalaya**)."

Dr. Pathak explored the multifaceted nature of the Himalayas, emphasizing its role not only as a reservoir of geographical, geological, and biological diversity, including mountains, lakes, and rivers but also as a tapestry of socio-cultural diversity and a diverse economy encompassing hunter-gatherer traditions, animal husbandry, farming, and modern trade. He highlighted the Himalayas as the 'abode of ice' but also underscored the alarming transformation of the region into a disaster hotspot in recent times.

The lecture elaborated on how the Himalayas serve as a convergence point for both natural and spiritual forces, attracting pilgrims and tourists. The region's ecological balance significantly influences the societies of South Asia, though these invaluable resources are disappearing faster than we can restore them.

While the Himalayas entice adventurers with their towering peaks, challenging passes, and icy expanses, the primary challenge faced by its inhabitants is safeguarding their self-respect and right to inhabit this land. Dr. Pathak stressed the

need for a deeper understanding of the Himalayas' fragility, a sensitivity that we have yet to fully embrace. Preserving the Himalayas in their current state is crucial, as they remain the cornerstone of our way of life and culture. This lecture aimed to shed light on the natural, ecological, social, economic, cultural, spiritual, and geopolitical significance of the Himalayan Mountains for the Indian subcontinent, delving into their geography, cultural richness, available resources, and the ongoing struggles to protect them. Following this enlightening lecture, an engaging Question and Answer session allowed participants to delve deeper into the subject matter and gain personalized insights.



ऑनलाइन उपलब्ध है: https://www.youtube.com/live/MeoJ07bZYY0?si=VvlwmwI_hcEfGqch

PRL Monthly Publications Digest (August 2023)

Astronomy & Astrophysics Division [1]

1. V.Aayushi, S.Saurabh, K.Mallick, D.Lokesh, D.Ojha, R.K.Yadav, R.Pandey, A.Ghosh, H. Kaur, N.Panwar and T.Chand, 2023, Exploring Stellar Cluster and Feedback-driven Star Formation in Galactic Mid-infrared Bubble [HKS2019] E70, *The Astrophysical Journal (ApJ)*, 953, 145, DOI: 10.3847/1538-4357/acdeef, Date of Publication: 14/08/2023

Atomic Molecular and Optical Physics Division [4]

1. A.Chakraborty and B. K. Sahoo, 2023, Deciphering Core, Valence, and Double-Core-Polarization Contributions to Parity Violating Amplitudes in ^{133}Cs Using Different Many-Body Methods, *J. Phys. Chem. A* <https://doi.org/10.1021/acs.jpca.3c04204>, Date of Publication: 29/08/2023

2. Jyoti, A. Chakraborty, Y.M.Yu, J.Chen, B.Arora, and B. K. Sahoo, 2023, Zr^{3+} ion as a prospective terahertz atomic clock, *Phys. Rev. A* 108, 023115 (2023) <https://doi.org/10.1103/PhysRevA.108.023115>, Date of Publication: 10/08/2023

3. N.Degda, N.Patel, V.Verma, K.V.R. Murthy, N.Chauhan, M.Singhal, M. Srinivas, 2023, Photoluminescence and thermoluminescence kinetic features of Eu^{3+} doped Sr_2YVO_6 double perovskite phosphor, *Optical Materials*, Date of Publication: 01/08/2023

4. S.Soumyashree and P.Kumar, 2023, Influence of pressure and pulse energy on the expansion dynamics of nanoparticle-enhanced laser produced plasma, *Spectrochimica Acta Part B: Atomic Spectroscopy*, Date of Publication: 01/08/2023

Geosciences Division [4]

1. C.Shaw, S.Sarkar, S.Kumar, and N.Rastogi, 2023, High release of isotopically depleted CO_2 and CH_4 from the photo-degradation of plastic: A pilot laboratory study, *Physics and Chemistry of the Earth, Parts A/B/C*, 103474, Date of Publication: 21/08/2023

2. S.Haslett, D.M.Bell, V.Kumar, J.G.Slowik, D. S.Wang, S.Mishra, N.Rastogi, A.Singh, D.Ganguly, J.Thornton, F.Zheng, Y.Li, W. Nie, Y.Liu, W. C.Yan, M.Kulmala, K.R.Daellenbach, D.Hadde, U.Baltensperger, A. S. H.Prevot, S.N.Tripathi, and C.Mohr, 2023, Night-time NO emissions strongly suppress chlorine and nitrate radical formation during the winter in Delhi, *Atmospheric Chemistry and Physics*, 23, 9023–9036, Date of Publication: 17/08/2023

3. Z.Shao, Y. Xu, ...S. Kumar, H. Saxena, A. Singh et al., 2023, Global oceanic diazotroph database version 2 and elevated estimate of global oceanic N_2 fixation, *Earth System Science Data*, Date of Publication:

15/08/2023

4. V.Bhavya, S.Kumar, G .Gupta, V. Sudheesh, T. Jabir, 2023, Inter-seasonal variation in nitrogen uptake rates of the eutrophic Cochin estuary and adjacent coastal Arabian Sea, Marine Pollution Bulletin, Date of Publication: 03/08/2023

Planetary Sciences Division [1]

1. K. Durga Prasad, M.Bhatt, A.Amitabh , G.Ambily, S.Sathyan, D.Misra, N.Srivastava, A.Bhardwaj, 2023, Contextual Characterisation Study of Chandrayaan-3 Primary Landing Site, Monthly Notices of Royal Astronomical Society Letters, Date of Publication: 03/08/2023

Space & Atmospheric Sciences Division [2]

1. Yogesh, D.Chakrabarty, N.Srivastava, 2023, New insights on the behaviour of solar wind protons and alphas in the stream interaction region in solar cycle 23 and 24 , Monthly Notices of the Royal Astronomical Society: Letters, Date of Publication: 03/08/2023

2. K. Upadhyay, D.Pallamraju, S.Chakrabarti, 2023, Imprint of storm enhanced density in ground-based OI 630.0 nm dayglow measurements, Journal of Geophysical Research - Space Physics, Date of Publication: 24/08/2023

Theoretical Physics Division [2]

1. A. Ghosh, P.Konar, D.Saha, and S. Seth, 2023, Precise probing and discrimination of third-generation scalar leptoquarks, Phys. Rev. D 108, 035030, Date of Publication: 22/08/2023

2. P.Dutta, 2023, Phase-dependent charge and heat current in thermally biased short Josephson junctions formed at helical edge states, New Journal of Physics, 25 (2023) 083024, Date of Publication: 11/08/2023

Udaipur Solar Observatory [1]

1. A.Rawat, G.Gupta, 2023, Exploring source region of 3-min slow magnetoacoustic waves observed in coronal fan loops rooted in sunspot umbra, Monthly Notices of the Royal Astronomical Society, Date of Publication: 16/08/2023

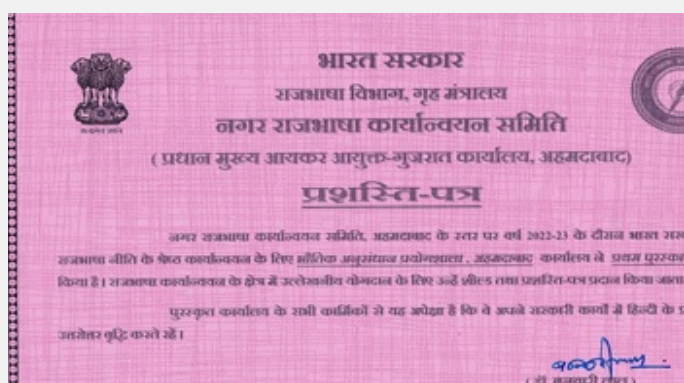
CNIT Division [1]

L.Kumari, S.Singh, V.Rathore, A.Sharma, 2023, A Comprehensive Handwritten Paragraph Text Recognition System: LexiconNet, Lecture Notes in Computer Science ,Springer, Cham, Date of Publication: 15/08/2023

Awards & Honours

(1) **Dr. Nishtha Anilkumar**, Library Officer of PRL has received **Vishwa Laxmi Best Librarian Award 2023** in the International Conference on "**Recent Trends in Academic Libraries: Systems and Services**" organised by Dr. O P Bhalla Central Library MRIIS in collaboration with Library Association of Bihar (LAB) and Delhi Library Association (DLA) held at Manav Rachna International Institute of Research and Studies, Faridabad, Haryana during 18-19th August 2023.

(2) **Physical Research Laboratory** has been awarded First Prize at **Town Official Language Implementation level** for the **best implementation of the Official Language Policy of Government of India for the year 2022-23**. The Trophy and Citation has been awarded to **Prof. Anil Bhardwaj**, Director, PRL on 27 July 2023 at the meeting of Town Official Language Implementation Committee at SAC, Ahmedabad.



(Left) Prof. Anil Bharadwaj, Director, PRL receiving the trophy and certificate. (Right) The certificate.

(3) **Mr. Anirban Ghosh**, Sr. Scientific Assistant, Photonic Sciences Laboratory, PRL won the **Young Scientist Award** in the URSI GASS 2023 held in Sapporo, Japan during 19-26 August, 2023.

External grants

1) The proposal by **Dr.Venkatesh Kavutarapu**, Assistant Professor, Space and Atmospheric Science Division of PRL on "Characterization of bottom side ionosphere for improving accuracies of electron content estimation" has been approved for a Start-Up Grant by the Department of Science & Technology (DST), for a term of 2 years.

(2) The proposal by **Dr. Rajendrakumar Dattatraya Deshpande**, Senior Professor and Chair - PPEG & Dr. Virendra R Padhya, Scientist/Engineer – SD, Geoscience Division, on "Defining river health of dryland rivers by developing a process-based hydro-geomorphic model" has been approved for a Core Research Grant by the Department of Science & Technology (DST), for a term of 3 years.

HEARTY WELCOME TO NEW MEMBER



NAME: Mr. Ravi Sevak

DESIGNATION: Senior Assistant

DATE OF JOINING: 01.08.2023

DIVISION/AREA: Accounts Division

VISITORS

1. Dr. Dimitra Atri, Group Leader, Mars Research Group, New York University, Abu Dhabi's Centre for Space Science visited PRL on 02.08.2023 to deliver a Colloquium.
2. Mr. Shivam Gola, The Institute of Mathematical Sciences, Chennai visited Theoretical Physics division from 14th August to 13th September.
3. Dr. Kuntal Bhattacharyya, Ph.D. from the University of Hyderabad visiting Theoretical Physics Division from 17.08.2023 to 16.10.2023
4. Mr. Utsav Parmar, Deputy Director, Ms. Nikita Shukla and Mr. Laxman Rajput from Doordarshan Kendra, Ahmedabad visited PRL on 21.08.2023.
5. Dr. Udit Khanna, PDF, Bar-Ilan University, Israel visited Theoretical Physics division from 23rd to 25th August.
6. Dr. Bhargav Vaidya, Associate Professor, IIT Indore visited Space and Atmospheric Sciences Division on 25 Aug 2023.
7. Dr. Suman Chakrabarty, Post Doctoral Fellow, Northumbria University, UK visited Space and Atmospheric Sciences Division during 27 - 30 August 2023.
8. Dr. Abhishek Mohapatra, Technical University of Munich, Germany visited Theoretical Physics division from 28th to 30th August.

SUPERANNUATION



Name of the employee Shri Rajeshkumar
Ramanlal Shah

**Designation at the time of
superannuation** Scientist/Engineer-SG

Date of Birth 25.08.1963

Date of Joining PRL 05.12.1986

Date of Superannuation 31.08.2023

Good Luck for your future endeavours

INTER CENTRE TRANSFER



Name of the employee Mr. Femics George

Designation at the time of relieving Senior Assistant

Date of relieving 03.08.2023

Transferred to U R Rao Satellite Centre,
Bangalore

Good Luck for your future endeavours

OBITUARY



Late Shri V.H. Chavda
Technician-G

Date of Birth 03.05.1965

Date of Joining PRL 09.07.1986

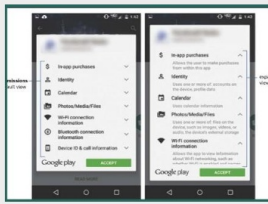
Date of Death 16.08.2023

Tearful Eyes for our Departed Member

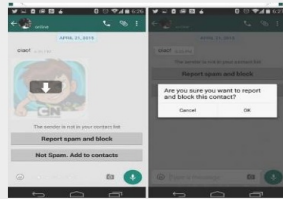


Cyber Security Awareness – WhatsApp Security

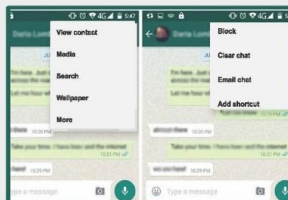
Adit Mehta, Jigar Raval, Computer Networking & Information Technology Division



Download WhatsApp only from the authorized stores. Never use any unknown link or unknown source to download it.



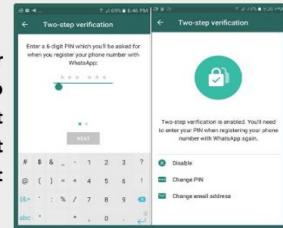
Never accept files or begin download from the messages sent to you from unknown numbers.



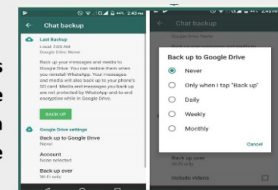
To block an unknown number, open that particular chat window go to more option and block.



Enable two-factor authentication, to ensure that nobody can set up your WhatsApp account without knowing the secret code.



Make sure cloud backups are OFF. They are not safe for any critical information when sharing with the cloud provider.



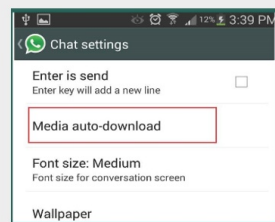
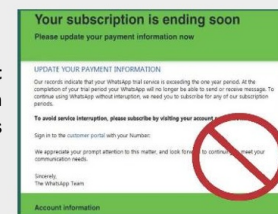
Never send/share private information like bank account details, PINs or passwords through WhatsApp.



Manage WhatsApp Web effectively, Ensure logout from all the computers/devices after use.



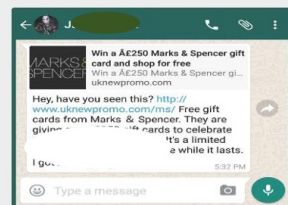
Never trust message that claims to come from WhatsApp and demands payment for the service



Keep automatic downloads files/media files disabled.



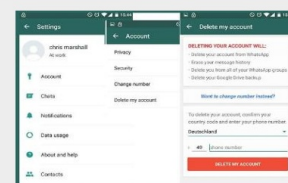
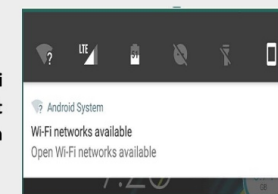
Restrict Access to Your Profile Photo, Status, Last Seen to your contacts list. OR Apply restriction suitably.



Never respond to suspicious messages received from unknown numbers.



Never Use Public Free Wi-Fi for important communication through WhatsApp.



Deactivate/Delete WhatsApp Account if you lose your phone.



Always keep updated version of WhatsApp and keep Antivirus updated with the latest signature.



Compiled, Designed and Published by

The Newsletter Team

Prof. Navinder Singh Chair
Dr. Amitava Guharay Co-Chair

Data Collection and Proofreading Team

Dr. Satyendra Nath Gupta Member
Dr. Yogita Uttam Kadlag Member
Dr. Sanjay Kumar Mishra Member
Dr. Rohan Eugene Louis Member
Dr. Paramita Dutta Member
Mr. Senthil Babu T J Member
Dr. Manash Ranjan Samal Member

Formatting and Editing Team

Mr. A Shivam Member
Dr. Pragya Pandey Member
Ms. Shreya Pandey Member
Mr. Kushagra Upadhyay Member
Mr. BS Bharath Saiguan Member
Mr. Jacob Sebastian Member
Mr. Shivansh Verma Member
Ms. Shreya Mishra Member
Ms. Shivanshi Gupta Member
Ms. Jyoti Limbat Member
Mr. Rutuj Gharate Member
Ms. Srishti Sharma Member
Mr. Abhishek Kumar Member

For any suggestions or query, please contact us at: newsletter@prl.res.in

Follow PRL on Social Media



<https://twitter.com/PRLAhmedabad>



<https://www.facebook.com/PhysicalResearchLaboratory>



https://www.youtube.com/c/PRLAhmedabad_webinars



<https://www.instagram.com/prl1947/>



<https://www.linkedin.com/in/prl-ahmedabad-89600122b>



<https://www.kooapp.com/profile/prlahmedabad>

PRL Contact



<https://www.prl.res.in/prl-eng/home>



Website (English)



Website (Hindi)

Physical Research Laboratory
(A unit of Dept. of Space, Govt. of India)
Navrangpura, Ahmedabad - 380009
Phone: (079) 26314000
Fax: (079) 26314900
E-Mail: director@prl.res.in

भौतिक अनुसंधान प्रयोगशाला
(अंतरिक्ष विभाग, भारत सरकार की यूनिट)
नवरंगपुरा, अहमदाबाद - 380009
दूरभाष: (079) 26314000
फैक्स : (079) 26314900
ई - मेल: director@prl.res.in